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Abstract

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A reactor (10) for anaerobic waste water treatment is designed as a loop-type column reactor comprising a central flow channel (20). In the annular space (40) between the central flow channel (20) and the reactor wall, there are positioned carrier elements (50) for immobilizing microorganisms, with flow passages being provided between adjacent carrier elements (50). The lower portion of the reactor (30), below the carrier elements, is designed as a space intended to receive waste water having microorganisms floating therein during operation of the reactor (10). During operation, there are provided both floating microorganisms and microorganisms that are immobilized on the carrier elements. The waste water to be treated flows centrally downward and up again along the carrier elements (40), with the flow being generated in part by the gas development of the microorganisms. The reactor is used to carry out a process for anaerobic waste water treatment, the reactor being suited for waste water treatment in the food processing industry and the feeding stuff industry as well as in the paper industry and the textile industry.

Fig. 1